Naturally Cold Cerveza

2013 AITP NCC VS.Net Developer Problem Statement

Your team has just been hired by Naturally Cold Cerveza Brewery (NCC Brewery) to write an application to help manage their inventory, shipping, and brewing management systems. As with any application you are presenting to a customer, your code **MUST COMPILE** in order to be evaluated! It is strongly recommended you test your code on a computer other than the one the code was compiled on (think BETA testing vs. ALPHA testing) – if your executable does not run on our testing platform it will not be evaluated. The test machine will support VS 2008, 2010, and 2012. The client has requested that **no libraries or code not included with Visual Studio be used - i**f you didn't write it, you can't use it!

Copy the database (NCCBrews.accdb) from the public share to **C:\AITPVS** on your computer – DO NOT modify the database schema. Your application will be tested against a fresh copy of the database identical to what is in the public share.

Fill out the attached info sheet on the back page of this statement and turn it in when you are done.

Remember, include only your team number – do not put your name or school affiliation anywhere in your solution or you will be disqualified!

1. Launching:
When launched, the application should clearly display the brewery name, phone number (555) 234-5525, and the QR code to follow @AITP2013 on twitter. NCC brewery is of course an avid supporter of the National Collegiate Conference – the QR code can be found in the public contest share.

2. Conversion Calculator:
Many of the employees using the application are not very good at converting between units, so they have requested a conversion calculator to do the following:

Ounces to Gallons (128 ounces in a gallon)	Ounces to Cups (8 ounces in a cup)	Ounces to Pounds (16 ounces in a pound)

The calculator should work in both directions and round the answer to 3 decimal places.

3. Customer Management:
Prior to placing an order, customers must manually be entered into the system. We cannot ship to an individual until verifying they are 21, and we cannot ship to a business without verifying their ABC license. NCC brewery can only ship within the United States. Customers have the following attributes:

Name (required) Company name (optional) Phone (required) Email (required)	Address (required) City (required) State (required)	Zip code (required) Verification of age (optional) Verification of ABC permit (optional)

Employees should be able to enter new customers, delete customers, and modify customer information.

4. Processing orders:
A list of currently outstanding orders is found in the *orders* table. The orders should be listed in one screen and any orders that do not have enough stock to be filled should be highlighted in red. Each order should have a "Ship" button, which removes the amount of beer ordered from stock and marks the order as filled.

Federal law requires we only ship two cases per shipment to individuals (companies may order as many cases per shipment as they want). Any order violating this rule should be highlighted in blue.

5. Receiving Customer Orders:
When customers place an order, an XML file is generated containing the customerid, beerid, and quantity ordered. Users should be able to import the XML file which is parsed and added to the *order* table.

6. Managing ingredient inventory:
The inventory of ingredients NCC Brewery has in stock is recorded in the *ingredients* table. Display the SKU, name, number in stock, unit, and price for each ingredient. The list should be sortable by each column and items with fewer than 50 units in stock should be highlighted in orange.

7. Receiving Ingredients:
When shipments of ingredients arrive, the distributor provides a CSV file with the SKU, and quantity. If the SKU is in the database, the quantity should be added to the existing record. If the SKU is not in the *ingredients* table, add it with a name of "Unknown", price of 0, and unit of "Unknown"

8. Brewing the brews:
NCC brewery brews ten different types of beer, found in the *beers* table. The user should be able to select a beer from a list of available beers and view the ingredients (beers and ingredients are linked via the *recipes* table). If enough ingredients for a beer are not available, the beer should be listed in red.

Thanks to a revolutionary new process, beer can be brewed and packaged instantaneously and is ready to ship one you click the "Brew" button. When a user clicks the "Brew" button, the ingredients should be deducted from the *ingredients* table and the stock of beer should increase in the *beers* table.

Many of these requirements can be enhanced – for example, you might allow the user to brew more than one case at a time. Your client will be thrilled with these type of value adds – but make sure you document them in your user manual so they are noticed!

Good Luck!

Application Information Sheet

Team #:_____

What language was used? _____

What version of Visual Studio was used? _____

Remember: your database must be stored in C:\AITPVS\NCCBrews.accdb – if any paths are hard coded in your application, please note that in the "other" section below.

Please indicate how far you got on each task: (circle one: 1=not started, 5=complete)

1. **Launching**: 1 2 3 4 5

Comments: _____

2. **Calculator**: 1 2 3 4 5

Comments: _____

3. **Customer Management**: 1 2 3 4 5

Comments: _____

4. **Processing Orders**: 1 2 3 4 5

Comments: _____

5. **Receiving Orders**: 1 2 3 4 5

Comments: _____

6. **Managing Inventory**: 1 2 3 4 5

Comments: _____

7. **Receiving Ingredients**: 1 2 3 4 5

Comments: _____

8. **Brewing Brews**: 1 2 3 4 5

Comments: _____

Other:_____

_____

Remember to copy your entire solution to your private file share